



TSMC-00-484B

November 18, 2003

To: Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Fr: George O. Saile, Reg. No. 19,572  
28 Davis Avenue  
Poughkeepsie, N.Y. 12603

Subject:

Serial No. 10/649,472 08/27/03

Juing-Yi Cheng, Kevin Su

A NOVEL CHEMICAL-MECHANICAL  
POLISHING (CMP) PROCESS FOR  
SHALLOW TRENCH ISOLATION

Grp. Art Unit: \_\_\_\_\_

#### INFORMATION DISCLOSURE STATEMENT

Enclosed is Form PTO-1449, Information Disclosure Citation  
In An Application.

The following Patents and/or Publications are submitted to  
comply with the duty of disclosure under CFR 1.97-1.99 and  
37 CFR 1.56. Copies of each document is included herewith.

#### CERTIFICATE OF MAILING

I hereby certify that this correspondence is being  
deposited with the United States Postal Service as first class  
mail in an envelope addressed to: Commissioner for Patents,  
P.O. Box 1450, Alexandria, VA 22313-1450, on November 21, 2003.

Stephen B. Ackerman, Reg.# 37761

Signature/Date

SB-A 11/21/03

U.S. Patent 6,043,133 to Jang et al., "Method of Photo Align0ent for Shallow Trench Isolation Chemical-Mechanical Polising," discloses a CMP STI process with reverse mask.

The following four U.S. Patents dislose various STI processes:

- 1) U.S. Patent 6,107,159 to Chuang, "Method for Fabricating a Shallow Trench Isolation Structure."
- 2) U.S. Patent 5,837,612 to Ajuria et al., "Silicon Chemical Mechanical Polish Etch (CMP) Stop for Reduced Trench Fill Erosion and Method for Formation."
- 3) U.S. Patent 5,950,093 to Wei, "Method for Aligning Shallow Trench Isolation."
- 4) U.S. Patent 5,889,335 to Kuroi et al., "Semiconductor Device and Method of Manufacturing the Same."

U.S. Patent 5,994,201 to Lee, "Method for Manufacturing Shallow Trench Isolation Regions," discloses a method for manufacturing shallow trench isolation regions using a first stop layer and a second stop layer as two polishing stop layers, or a polishing stop layer and an etching stop layer, respectively.

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U.S. Patent 5,930,645 to Lyons et al., "Shallow Trench Isolation Formation with Reduced Polish Stop Thickness," discloses a method of manufacturing a semiconductor device comprising trench isolation.

U.S. Patent 6,043,133 to Jang et al., "Method of Photo Alignment for Shallow Trench Isolation Chemical-Mechanical Polishing," discloses a method of removing an shallow trench isolation (STI) oxide layer from over alignment marks.

Sincerely,

A handwritten signature in black ink, appearing to be 'SBA', with a long horizontal line extending to the right.

Stephen B. Ackerman,  
Reg. No. 37761

NOV 24 2003  
35109  
BUREAU OF PATENT TRADEMARKS

Form PTO-1449 <b>INFORMATION DISCLOSURE CITATION IN AN APPLICATION</b> (Use several sheets if necessary)	Doc. Number (Sequence)	Application Number
	TSMC-00-484B	10/649,472
	Applicant <b>Juing-Yi Cheng et al.</b>	
	Filing Date	Group Art Unit
	08/27/03	

U. S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILED DATE IF APPROPRIATE
	5994201	11/30/99	Lee	438	427	10/13/98
	5930645	7/27/99	Lyons et al.	438	424	12/18/97
	6043133	3/28/00	Jang et al.	438	401	7/24/98
	6165854	12/26/00	Wu	438	296	5/4/98
	6107159	8/22/00	Chuang	438	432	3/2/99
	5837612	11/17/98	Ajuria et al.	438	697	8/1/97
	5950093	9/7/99	Wei	438	401	12/30/98
	5889335	3/30/99	Kuroi et al.	257	797	2/23/98

FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
					YES	NO

OTHER DOCUMENTS (Including Author, Title, Date, Portmox Pages, Etc.)


EXAMINER	DATE CONSIDERED
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EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

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ASSOCIATE POWER OF ATTORNEY

I hereby appoint Rosemary L.S. Pike, registration number 39,332, as my associate attorney in this case. Her telephone number is (765) 453-0866.

Please continue to direct all correspondence in this case to the undersigned attorney.

Respectfully submitted,

Stephen B. Ackerman,

Principal attorney of record